Smart II Enhancer
LOADER V

First of all, thank you for your patronage. I hope, and believe, that you
will find Loader V an exceptional value. Please read the entire documentation
before making your working copy as there are several possible configurations!
If you have any questions, or experience any problems that this documentation
doesn't answer, please feel free to contact me.

On 'Compuserve' - ID# 72676,2544

or

Kurt A. Casby
25 Battle Creek Court
St. Paul, Mn. 55119

Two Versions

There are two versions of the machine code portion of Loader V on the tape you
have. The 'normal' version will be loaded automatically when you first load
Loader V. This version allows loading the buffer with any normal 'Bytes:'
file up to 27,256 bytes long, thus filling Mterm's buffer. This version also
uses the entire memory of the computer, from the start of BASIC up, (and some
below BASIC) when loading the buffer. Therefore, nothing else (except Mterm,
of course) can be in this area of memory at the same time.

The second version is an attempt to allow users who may have other RAM
resident software (a DOS perhaps?) to use the program. This version leaves
the memory from 49,000 up untouched. Files loaded into the buffer with this
version cannot exceed 19,936 bytes in length. This is not as severe a
limitation as it may seem, it is still large enough to load any Tasword II, or
Mscript text file you may wish to send!

If you attempt to load the buffer with a file longer than the version you are
using permits, you will get some possibly interesting, but most definitely
undesirable results!

Except for the size of the file you may load into the buffer, the two versions
are identical. In fact, the BASIC portion of Loader V is the same for both!

Please Note:

TS2068 is a registered trademark of Timex Computer Corporation

Mterm is a copyrighted program of Micro-Systems Software, Inc.

Mscript is a copyrighted program of Micro-Systems Software, Inc.

Tasword II is a copyrighted program of Tasman Software

LOADER V

Stock Set-up

1) Load Mterm into your TS2068 (LOAD ""CODE).

2) Load Loader V into your TS2068 (LOAD ""). The BASIC portion of the program will load, followed by the machine code. The loading process should terminate with the report: 0 OK, 9999:2. If you desire to use the second version of the machine code, you must now type: LOAD "R" CODE, press ENTER, and play the tape until it loads. Be patient, you only have to do this once!

3) Edit lines 100-119, inserting your favorite BBS names and numbers. Please abide by the restrictions in the DATA statements. (No more than 17 letters in the name, and up to 11 digits in the telephone numbers.) The numbers MUST be preceded by an upper case (capital) letter to specify what communication parameters you wish to use with that number. You will note there is now a capital P (for parity!) in this position in each of the DATA statements. The letters have the following meanings:

     E - 7 bit word size, Even parity, 1 stop bit
     O - 7 bit word size, Odd parity, 1 stop bit.
     Anything else - 8 bit word size, No parity, 1 stop bit.

4) Insert a blank tape into your recorder and type: RUN 9000. This will SAVE a working copy of Loader V combined with Mterm! You may now, using this copy, load the whole works with one LOAD "".

My Favorite

1) Follow steps 1 thru 3 as above.

2) Type RUN, then hit ENTER. You will now be looking at Loader V's Main Menu. Press 1, hit ENTER, and you will be at the 'front page' of Mterm.

3) Now load, or type in your favorite telephone numbers and macro keys in the usual way. I prefer to keep only those telephone numbers which are almost never busy in my Mterm dialing list, since it does not repeat dial.

4) Exit to BASIC.

5) Type, in the immediate mode (without a line number): FOR x=54066 TO 54088: POKE x,0: NEXT x then press ENTER. This will modify Mterm so that it will not erase your telephone numbers and macro keys every time you run it! Unlike so called 'warm starts', this modification will not effect anything else!

6) Edit line 9000, altering the length of Mterm (from VAL "7721") to VAL "9216". This is so your telephone numbers and macro keys will be saved with Mterm!

7) Insert a blank tape into your recorder, and type: RUN 9000. This will make a working copy of the whole works. Now you may load the entire set-up with one LOAD "", and have a total of 34 telephone numbers available for dialing with only a few key strokes!

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Using Loader V

After following the instructions on the previous page, using Loader V is a simple matter of selecting from menus. The main menu of Loader V has three options:

      1) RUN MTERM

      2) DIALING MENU

      3) LOAD BUFFER

The FIRST option will run Mterm, just as if you had typed: PRINT USR 54016. When you select this option you will see that there are some bytes used (BUFUSD) in the buffer. If you have loaded the buffer, 'BUFUSD' indicates how long the file you have loaded is. If you have not loaded the buffer, then this is the length of the BASIC portion of Loader V (without the variables!). If you have not loaded the buffer, and you do not erase the buffer or download anything into it, you may exit to BASIC and type: RUN to use Loader V again.

The SECOND option displays your additional dialing directory, and allows you to select a number to be dialed or enter a telephone number from the keyboard. There is room for 20 names and numbers in this directory. When you use this feature, the number you select will be re-dialed automatically until you hit BREAK, or your call is answered. If your call is answered you will hear a BEEP, and then Loader V will run Mterm. Just hit ENTER twice to get into terminal mode, then do whatever the system you are calling requires.

When you enter a telephone number directly from the keyboard (option 'u' on the dialing menu) you may, if you wish, specify what communication parameters you want used for the call. You do this by preceding the number with an upper case (capital) letter. The meaning of these is the same as described in the 'Stock Set-up' instructions on the previous page. If you type the number in without a preceding letter (unlike the DATA statements where you MUST precede the telephone number with a letter), Loader V will assume you want 8 bit word length, No parity, and 1 stop bit. (Most systems use these parameters, so most of the time you will not have to type in the letter!)

When you use the auto-repeat dialer, if the phone call you generate is answered (by a computer OR a human) the TS2050 modem will indicate a connection, and Loader V will run Mterm. If you make a call, Loader V runs Mterm, and as soon as you get to Mterm you see the message: 'Connection lost', something other than a computer may have answered the phone! PLEASE check to make sure you are dialing a telephone number that belongs to a computer! This will prevent you from accidentally dialing some poor soul's telephone number over and over. If you dial your own telephone number with the auto-repeat dialer, the TS2050 modem will also indicate a connection, and Loader V will run Mterm. (I am not sure that I understand why you would want to call yourself when you are already on the phone!)

The auto-repeat dialing routine has been extensively tested by myself, and several friends all around the country! It dials the telephone much faster than Mterm does, as you will no doubt notice!

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The THIRD option on the main menu allows you to load any standard 'Bytes:' format file into Mterm's buffer if it will fit (27,256 Bytes). (If what you want to send is longer, just save it in two parts, and send them one at a time!) You will first be prompted for a Filename. This is the name of the 'Bytes:' you wish to load. If you just press ENTER, the first 'Bytes:' file on the tape will be selected. You will then be prompted for carriage return insertion. If you are sending a machine code program, choose option 1) None. If you are sending a text file, (from TASWORD II or MSCRIPT), then you may wish to have carriage returns inserted. You have a choice of after every line, or after every paragraph. Choose which ever is appropriate for the system you will be sending to. (See the sections on using word processors for more information.)

When the load has been successful, the message: 'LOAD complete, press any key' will be flashing near the bottom of the screen. If, after loading the buffer, you do not see this message, and instead find yourself at Loader V's main menu, there has been a loading error, or you pressed BREAK. Try again!

If you got the message 'LOAD complete, press any key', then press a key and you will find yourself back at Loader V's main menu. You may now use the auto-repeat dialer, or RUN Mterm (or change your mind and LOAD the buffer with some other file!). When you RUN Mterm or make a connection via the dialer you will find that the file you loaded is now in the buffer!

Once you have loaded the buffer, and run Mterm, the BASIC portion of Loader V will have been erased from memory (whatever you loaded the buffer with will overwrite this same area of the computer's memory!). The machine code portion of Loader V will still be safe in memory (at 23780-24023) unless you type: NEW. So if you complete your call and decide you wish to use Loader V again, you would only need to re-LOAD the BASIC portion (press BREAK after the BASIC has loaded and before the machine code starts to load) and type: DELETE 9000,9499: RUN. If you wish to load the buffer again while you are still on line, you should use Reloader to accomplish this! (See the documentation for Reloader for further information.)

Lets Be Fair

I hope you enjoy these programs, and find them a valuable addition to your software library! I welcome any comments, questions, or criticisms, preferably by mail, not Email. (My Compuserve budget is very limited!).

I honestly feel I have given anyone purchasing this program a fair deal. Many have told me that the programs are worth at least twice what I charge for them! I do not expect to get rich selling these programs, but I would not mind a fair return for the time and effort I have invested. If you make copies (not too difficult, I have explained how!) of these programs for other people, not only are you breaking the law, you are not being fair to me! If you feel you must make a copy for your friend, have your friend send her or his name and address, along with $5.00 (or send it yourself!). This is about what I clear per copy. I will add your friends name to my customer list, and be willing to assist them in anyway I can. After all, fair is fair, right?

LOADER V

Customization

As Timex/Sinclair enthusiasts, we all seem to enjoy altering and modifying our programs to suit our personal tastes! If you intend to alter Loader V, here are some things of which you should be aware:

Memory space is critical for this program. Your modified version should not be longer than about 2025 bytes (not including the lines that are DELETEd when it is loaded), assuming you do NOT create any new variables. This is only an approximation. If the program suddenly goes to the main menu when you are dialing, you have added too much to the BASIC. The easiest way to keep track of how long your modified version is getting to be, is to RUN it, then select '1) RUN MTERM' from the main menu. Look at 'BUFUSD', this is the length of your BASIC program (minus the variables)!

If the BASIC looks odd, it is because it was written with memory conservation in mind. I suggest you keep it in mind if you make any changes!

The ON-ERR statements should be left in the program.

If you need help in making alterations for a specific purpose, send me a letter, and I will try to help. Please be sure to specify exactly what goal(s) you are trying to achieve.

Most people will find that the dialing routine works just fine the way it was delivered, and will have no need to alter it. Please try it BEFORE you start making changes! If you do have trouble with the dialer (wrong numbers, or incompletely dialed numbers), your local telephone equipment may not be able to handle this increased dialing speed! You can still use the dialer by slowing it down a little! To do this, you will need to modify line #48 of the BASIC program, inserting a PAUSE statement so that the line looks like this:

```
48 PAUSE VAL "25": FOR d=i TO z: FOR e=INT PI TO VAL "4": OUT m,e:
PAUSE b: NEXT e: OUT m,i: OUT m,b: NEXT d: NEXT x
```

If it still dials too fast for your telephone equipment you will have to experiment a little. Increase the length of the PAUSE statement you added from 'b' to 'PI', then to 'b+b' (b is equal to 2). You may even need to increase the length of the first PAUSE statement in the line (try 28!). Make the increases in small increments, and test each change. Even on the oldest phone equipment large increases will NOT be needed!

If you feel that the dialing routine waits too long (or not long enough) for an answer before re-dialing the number, you can alter the VAL "1e3" in line #49. Try VAL "900" to shorten the wait, or VAL "1100" to lengthen it!

Loader V (either version) will peacefully co-exist with the Aerco patch for Mterm. PLEASE NOTE, however, that CIS-UP and TSXMODEM will not. The Aerco patch uses (as a printer buffer) the same area of memory that is used by both TSXMODEM, and CIS-UP.

The version of this patch I have tested is, I believe, in the public domain. It was written by Dave Schoenwetter.

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For those of you who may wish to experiment with Mterm, here is some further information and a partial memory map of Mterm! All addresses are in decimal.

Loaded with Mterm:

54016 to 59221-Mterm's program code.
59222 to 59435-Data for the Opening screen.
59436 to 59691-Data for the Main menu.
59692 to 59855-Data for the Data menu.
59856 to 60183-Data for the System menu.
60184 to 60378-Data for the Telephone entry menu.
60379 to 60540-Data for the Help menu.
60541 to 60574-Data for the Options (shift 8) menu.
60575 to 61144-Data for misc. prompts.
61145 to 61439-Mterm's variables stored here.
61440 to 61695-Mterm's Keyboard translation table.
61696 to 61736-More of Mterm's variables. (Last bytes loaded!)

Built when you RUN Mterm:

61737 to 62376-Macro Key list. (10 Macros, 64 bytes each!)
62377 to 63174-Telephone number list. (14 numbers, 57 bytes each! 25 bytes for the name, 30 bytes for the number, 1 byte for the parity setting etc., 1 byte for the selected Macro Key.)

63175 to 63231-An empty 15th telephone number. (Used by Mterm if you select a number from the list greater than 'N', you cannot use it!)

63232 to 63999-Your Display, Input, and Output translation tables. (3 tables, 256 bytes each! In order D,I,O.)

64000 to 64767-Display screen 2, used when you print a screen.
64768 to 65535-Display screen 1, used as main display screen.

Misc. tidbits:

54066 to 54088-Builds the telephone directory and macro Key list.
54089 to 54101-Builds the D,I,O translation tables.
61700-Mterm's variable which controls the parity, word size, and stop bits the program will use. These are the values for the most common settings:
        79 =8,1,N   123=7,1,E   91 =7,1,O

If you have altered, or would like to alter your input, display, or output tables in Mterm, and would like Mterm to NOT re-create them each time you run it, then type, in the immediate mode (without a line number):

    FOR x=54089 TO 54101: POKE x,0: NEXT x

You must do this AFTER you have run Mterm, and loaded you favorite translation tables. You must also now save Mterm as 9984 bytes long, in order to save the translation tables along with it. This altered version can be used with the machine code version of Loader V labeled "R". DO NOT ATTEMPT TO USE THIS MODIFIED VERSION OF MTERM WITH THE NORMAL VERSION OF LOADER V MACHINE CODE!!

LOADER V

Moving Mterm to a new type of mass storage device? The problem we have moving Mterm to these devices is not being able to load in telephone numbers and macro keys from the new device. As outlined on page 2 ('My Favorite'), you can save Mterm to your mass storage unit with your telephone numbers and macro keys intact, altering Mterm so it will not erase them each time you run it!

If you use several different telephone number and macro key lists you can save them separately, and load them in when you wish! (The same is true for the translation tables!) Load in your telephone list, or tables (from tape within Mterm), exit to BASIC, and save the appropriate area of memory. For example, a telephone number and macro key list would be saved as 'CODE 61737,1495' on your new device. Do this with each of your lists. Then, when you want to load in a different list, exit to BASIC, and load the 'CODE' file of your choice in from your new device!

File Transfers

When you upload (send) or download (receive) a file, you are engaging in a file transfer. To transfer any file, both of the computers involved must use an agreed upon 'protocol' (a set of rules)! This protocol may be very simple, as in a non error checking ASCII (American Standard Code for Information Interchange) file tranfer, or it may be relatively complex, as in an Xmodem file transfer.

Mterm provides you with three variations of one protocol: REM, None, and HEX. CIS-UP is a fourth variation of this same non error checking ASCII file transfer protocol.

TSXMODEM provides you with a second protocol, used by many computer systems, referred to as Xmodem. Xmodem is an error checking file transfer protocol!

Uploading

To upload (send) a file, you must first get the file into Mterm's buffer! If the file you want to send is a BASIC program, just load it in to your TS2068. If the file is anything else, use Loader V to get it into Mterm's buffer. If what you want to send is not a BASIC program or a 'Bytes:' file, then make it into a 'Bytes:' file! For example, if you want to send a string array, CLEAR out all variables, and LOAD it in. Then PEEK the system variables 'VARS' and 'ELINE' (see page 263 in your manual) to find out where (in memory) the array starts and ends. Then SAVE that area of memory as a CODE file (Bytes:)! The receiver would have to SAVE the file as CODE (Bytes:), DIM a similar string array, then LOAD the bytes in!

Please note that if you are sending the file to another TS2068, or to a system where it will be downloaded by another TS2068 you should never send a completely full buffer. (If you doubt this, create such a file, load it into Mterm's buffer, RUN Mterm, and exit to BASIC! Your computer will have to be turned off to regain control!) Keep what-you send to no more than around 26,500 bytes, and all should be fine! You can go up to 27,000, but the receiver will have to CLEAR 55000 before they will be able to SAVE the file!

Once you have the file in Mterm's buffer, you must choose an appropriate protocol (or variation of a protocol) to use for the upload. The choice will depend on the contents of the file you wish to send, the system you are sending it to, and possibly on the computer that will later be downloading it from the system you are sending the file to!

The file you want to upload may contain most anything your computer can create or use! This includes, but is not limited to: BASIC programs, Machine language programs, unformatted text files, formatted text files, a SCREEN$ file, data from a program such as Vu-Calc, the variables from a BASIC program, etc.. For the purpose of selecting an appropriate protocol you may divide the file contents into two catagories:

1) A formatted text file. (A file with nothing but text in it. No formatting commands, printer control codes, or anything other than the text itself!) For which you may use Xmodem or non error checking (Mterm's None, Mterm's HEX, or CIS-UP). My preferences, in order would be: Xmodem, Mterm's None, Mterm's HEX, and CIS-UP.

2) Anything else. (That makes it easy, right?!!!) For which you may use Xmodem, or non error checking (Mterm's HEX, or CIS-UP). My preferences, in order would be: Xmodem, Mterm's HEX, and CIS-UP.

You must also take into consideration the capabilities of the system you are sending to. Remember, both systems must agree on the protocol before the file transfer can take place! You cannot use Xmodem if the computer you are sending to is not capable of using Xmodem. You cannot use Mterm's HEX variation if the system you are sending to has a maximum line length limit! (That is why CIS-UP exists!) If you are using Mterm's None to send text, you must make sure that your text file complies with any line length limit imposed by the system you are sending to. (See the sections on word processors.)

When you use any of Mterm's variations (HEX, None, or REM), to transmit a file, you will be asked two questions by Mterm. The first question: 'T: Prompt string ?' is asking you for the character string the 'other' computer will be sending as a signal to send the next line! If you are sending to a system that prompts you for each line, tell Mterm what prompt the other system will be using! If the system you are sending to will not be prompting you for each line, then just press ENTER. The second question: 'T: Character delay ?' is asking you to set the 'throttle'. You may answer by just hitting ENTER (the same as answering with a 0), or with a number from 0 to 255, followed by ENTER. The higher the number you answer with, the slower Mterm will transmit the file. You will find that many BBS programs, and even some commercial systems cannot keep up with a full speed transmission for more than 100-200 characters. When you send a file to one of these systems, you will need to set the throttle! (Try between 50 and 75!)

If you are sending a file to another TS2068, you can control the 'other' TS2068's buffer from your end. Send a 'control r', this will open the buffer, then send the file, then send a 'control t', this will close the buffer. (There is no need to do this if you are using TSXMODEM!) You must, of course, be careful while the 'other' TS2068's buffer is open, to insure that you do not inadvertently send anything except the file!

Downloading

When you download (receive) a file, it will be placed in Mterm's buffer for
you. You should make sure Mterm's buffer is empty before the download, or
what you receive may be added to what is already there! (If this is what you
intend, then fine!) You should also take note of the size of the file you
will be receiving, keeping in mind that you should not fill your buffer
completely! (See the comments under 'Uploading') To use any of Mterm's
variations of the non error checking ASCII file transfer protocol you must
open your buffer before the download, or have the sender open it for you if
possible. (You do not need to open the buffer when using TSXMODEM, see the
separate documentation for more information.)

Your choice of file transfer protocols may be dictated by the system that is
sending the file, or by the person who uploaded the file to the system that is
sending the file! If the file was uploaded to a third system (a BBS,
Compuserve, etc.), or will be sent from another TS2068 using CIS-UP or Mterm's
HEX, you will have to download with Mterm's HEX. If the file was uploaded to
a third system, or will be sent from another TS2068 using Xmodem protocol, you
will have to download using Xmodem protocol. If the file was uploaded to a
third system using Mterm's None variation, you may still use Xmodem protocol
for the download if this third system can use Xmodem, and you so desire. If
you are receiving directly from another TS2068 using Mterm's None variation,
you will have to use it for the download also!

Once you have the file in Mterm's buffer, you will have to SAVE it for later
use! Make a note of how many bytes (BUFUSD) have been used in Mterm's buffer,
then exit to BASIC. If you downloaded a BASIC program, then type: SAVE
"name". If what you downloaded was not a BASIC program, there may be lots of
what looks like garbage on your screen. The reason for this is that your
TS2068 is trying to interpret whatever you downloaded as a BASIC program
(which it is not!). Fear not, just type: SAVE "name" CODE 26710,(the number
of bytes (BUFUSD) used in Mterm's buffer.). This will save the file as a
'Bytes:' file on your tape. The file being safely on tape (or whatever mass
storage you have), the downloading process is now complete!

Word Processors

Word processors are wonderful tools, deserving of the many books written about
them. Our concern here, however, is limited to how we can best use them for
creating text files for transmission via the modem, or viewing, altering, and
printing out text files we have received via the modem.

There are two types of text files you may wish to create for sending via the
modem: unformatted, or formatted. An unformatted text file is useful only to
someone with the same word processor, and possibly even the same printer and
interface! Formatted text file are somewhat more universal. (See the
definitions under 'Uploading'.)

If you want to create a formatted text file and upload it using Mterm's None
variation of the non error checking ASCII file transfer protocol, you must
know something about the system you will be sending your text file to!

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1) Most systems have a maximum line length. This means you must have a carriage return after each line, and each line must be less than the maximum acceptable length for the system you will be sending the file to. Even if you are sending to another TS2068, where line length is not a consideration, you should have a carriage return after each line unless you know for sure that the person on the other end has the same word processor you have.

2) Some systems want carriage returns only at the end of each paragraph. If you are going to be sending the file to a system so designed, you must comply!

3) Many systems will not allow a blank line (between paragraphs etc.), and some even interpret a blank line as the end of your file. If you will be sending your file to a system such as this, you must comply. If the blank lines are important for the cosmetic look of the text, try typing a single character (a colon ':' perhaps?) at the beginning of any blank lines. This will be easily removed by anyone downloading your text!

Within the limitations of these considerations, use the power of your word processor to create what you want to send! If you want your text to be easy to read on a 32 column screen, set your margins to 31! (The carriage return DOES take a space!) If you want something centered between the margins, center it! Use your word processor to format the text as you want it to look when you send it!!!

When you have downloaded a text file from another computer, your word processor is the ideal vehicle for viewing, editing, and printing out what you have downloaded. Using your word processor, you may reformat the text to whatever margins you wish! You may alter, add to, or delete portions of the text. In short, you have complete control of the text file! There is no need to have pages and pages of text only half (or less) the width of your paper just to have a hard copy of a small part of what you have downloaded! (The portion you really wanted!)

Using Tasword II

With Tasword II text files, the only real difference between a formatted and an unformatted text file is whether or not you have printer control codes in the file! This is because Tasword II does its 'formatting' as you type! For example, when you tell Tasword II to center something between the margins, Tasword II actually centers it on the line immediately. (This is not true for all word processors!)

To create a formatted text file to send via the modem, you only need to make sure that there are no printer control codes imbedded in your text. Set your margins where you want them, right justify the text if you wish, and make the text appear the way you want it to look when you send it!

Tasword II does not, however, allow you to insert carriage returns in the text! Loader V provides this option for Tasword II users. If you choose to have carriage returns inserted, Loader V will still respect your margins, justification, etc.. (Depending on the margins, this may also reduce the size of the text file, and, therefore the time it takes to send it!)

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If you have ever loaded a downloaded text file into Tasword II, it may have looked very strange, full of garbage, and with no visable format at all! To work with such a file would be more difficult than retyping the whole thing! This is the reason I wrote Unloader. (See separate documentation.) After using Unloader on the downloaded text file, you should easily be able to do whatever you wish with it using Tasword II!

Using Mscript

To use Mscript with Loader V, or with text files downloaded with Mterm, you must have the 'Customized' version of Mscript! (This version allows you to save and load text files as normal 'Bytes:' files instead of the non standard method used by Mscript itself!) 'Customized Mscript' adds many other useful features to the program as well! If you own Mscript, and do not have this version, you are missing the other half of your word processor! IT IS THAT GOOD! If you don't have it, send a letter requesting 'Customized Mscript' to:

                        Jack Dohany
                   325 O'Connor Street
                  Menlo Park, CA. 94025

You must send your name, address, and preferably your telephone number. You must also include a statement indicating that you do own Mscript, and let Jack Know what Kind (and brand) of mass storage you are using! Jack also requests that you DO NOT send any money!

To create a formatted text file to send via the modem, you may need to do some formatting yourself! If you want something centered between the margins, for example, you must center it yourself. Remember, no formatting commands or printer control codes in a formatted text file! You must also insert carriage returns in your file if you want them. This is not a big problem, if you want them after each line, set your margins to what you desire, then move the cursor to the begining of the second line and hit ENTER. Then, just cursor down, hit ENTER, cursor down, hit ENTER, etc., until you get to the end of the file!

As an alternate method for carriage return insertion, run the file through Unloader. Then when you load it into Mterm's buffer via Loader V, have Loader V insert the carriage returns for you!

With 'Customized' Mscript, you can easily load text files you have downloaded with Mterm directly into Mscript as long as they are not too long! Some of the time, this will be entirely satisfactory. If, however, the file you have downloaded is too long for Mscript, or if you wish to get rid of the carriage returns after every line so you can alter the margins, then run the file through Unloader! (See the separate documentation for Unloader.) This will cut the file up into shorter files if needed, and will remove all the carriage returns. You should then reload each of the converted files back into Mterm's buffer with Loader V, choosing to have carriage returns inserted after each paragraph! Then save each of the files one more time! When you load these files into Mscript, you will have complete control over them, just as if you had typed them in. This is not as difficult as it sounds. Give it a try!

TSXMODEM

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by
Kurt A. Casby

TSXMODEM is an auxiliary uploading and downloading routine for the TS2068
computer, TS2050 modem, and Mterm (Smart Term II). It is an implementation of
Ward Christensen's Xmodem protocol! The Xmodem protocol is a public domain,
error checking, file transfer protocol. I, along with thousands of other
computer users, thank Mr. Christensen for his generous gift to us all!

To use this routine, it must be loaded into memory (LOAD "TSXMODEM" CODE), and
the computer you will be sending to (or receiving from) must also be able to
use Xmodem protocol! You then use Loader V and Mterm to go on line as usual,
however, you MUST use 8 bits word length, No parity, and 1 stop bit as your
communication parameters! (This is required by the Xmodem protocol!) When
the computer you are sending to (or receiving from) is ready to receive (or
send) the file, you exit to BASIC, and type:

PRINT USR 24024 (To send - upload)

PRINT USR 24415 (To receive - download)

Then press ENTER!

If you are sending (uploading), then the routine will send whatever file you
have in the buffer. When the routine has finished its task, it will return to
Mterm.

If you are receiving (downloading) then whatever file is received will be
placed in the buffer. This will overwrite anything existing in the buffer
prior to the download. It is a good idea to make sure Mterm's buffer is
closed before downloading a file. It will make no difference to the routine,
but when you return to Mterm after the routine has completed its task, you may
inadvertently add some garbage to the end of the file if your buffer is open!

If you are used to sending and receiving files with Mterm's 'HEX' file
transfer, or CIS-UP, this type of transfer will look a little strange! Xmodem
breaks the file into blocks of 128 bytes each. The sender transmits a block,
then a checksum to insure accuracy. All that will appear on your screen is a
plus sign (+) for each good block sent (or received), or a minus sign (-) for
each bad block. If a block was bad, it will be re-sent up to 10 times! (Some
systems' implementation of the protocol will give up easier, and earlier!) If
after 10 tries, the block has still not made the trip intact, the receiver
will 'give up'. This will seldom happen in the 'real world', but it is
possible if the telephone lines are very bad! (Lots of Noise!). If one system
gives up earlier than the other, the other will 'time out', and give up also!
You will be able to tell if your transfer was a success by watching the block
symbols. When you are downloading, if the buffer is empty (BUFUSD=0) when you
return to Mterm, or if it contains the same number of bytes as before the
download, the transfer failed! Failure is much less likely with Xmodem than
with any other transfer method we have available to us! However, I thought
you ought to know what to look for!

TSXMODEM

The fact that not much is happening on your screen may make this type of transfer appear rather slow. In fact, it is almost twice as fast as a 'HEX' file transfer! When you transfer a file with the conversion set to HEX, the number of characters sent is actually twice the number in the file! This is a 100 percent increase size of the file, and in the time the transfer takes. Xmodem adds only a 4 percent increase! In addition, this protocol has been statistically proven to be approximately 99.9 percent effective at error elimination!. This means that 999 times out of 1000 your file will arrive 100 percent correct! Twice as fast, and many times more accurate, what more could we ask for!!!

Once you upload or download a file from your TS2068 to another TS2068, a BBS, or a service like Compuserve using Xmodem protocol, you will really appreciate the speed and accuracy of Xmodem! Try it, you'll like it!

I have installed a throttle in this routine so you may slow down the transmission if the computer you are sending to cannot keep up with the full speed. It is unlikely that you will need this with Xmodem, since most systems are able to keep up with full speed for the length of a block! If you do need it, however, it is there for you to use. If you need to slow it down, POKE 24212 with a number between 1 and 255. The higher the number, the slower you go!

To make a working copy of TSXMODEM for yourself, load it into your TS2068 from the side of the tape marked 'Loader V', insert a blank tape, and type: SAVE "TSXMODEM" CODE 24024,537

If you will be using this routine often, you can install it as a part of Loader V. Just load it in when you make a working copy of Loader V, and edit line 9000, changing the length of the code part of Loader V from VAL "244" to VAL "781",

Please also remember that all the machine code below 26710 (The start of BASIC) will be erased if you type: NEW.

Please note that except for some minor relaxation of timing specifications (to allow the routine to work with services like Compuserve), this routine is pure Xmodem. It should work fine with ANY system that offers this protocol for file transfers. You should be aware, however, that some people have seen fit to 'improve' on this standard, altering the block size, or changing other specifications. I believe this is counter-productive since the main value of a 'standard' is that it is the always the same! If you run across a BBS that will not transfer files with you using Xmodem, check with the SYSOP of the BBS. He, or she, has most likely 'improved' on the protocol!

UNLOADER

Donated to the public domain!
by
Kurt A. Casby

Unloader is an file translation program for Mterm, Tasword II, and Mscript.
It will convert a text file downloaded into Mterm's buffer into one or more
Tasword II text file(s). It will also convert an Mscript text file into one
or more Tasword II text file(s)!

In order to be converted, the contents of Mterm's buffer must have already
been saved. To do this, follow these steps:

1) Make a note of how many bytes (BUFUSD) of Mterm's buffer have been used.

2) At Mterm's main menu, press 'e', to exit to BASIC.

3) Type, in the immediate mode (without a line number): SAVE "name" CODE
26710,(number of bytes used in buffer)

After you have saved the buffer contents in this manner, Unloader can
translate them for you. Just LOAD 'Unloader', it will ask for the name of the
file you wish to translate. If you just press return, Unloader will select
the first bytes on the tape! The actual conversion is done by the machine
code in the REM statement at the start of the program. It is, therefore, very
quick.

After the conversion has been done, Unloader will ask for the name you want to
save the converted file under. Type in the name, and press ENTER. Unloader
will save the file on tape.

Depending on a number of things, Unloader may create more than one file from
the buffer file you loaded in! If more than one is needed, Unloader will
flash ' More to Come!' on the screen, then ask for the name of the second
file. This process will continue until Unloader has finished its work. At
that time, Unloader will print ' Finished ' on the screen, and will stop with
a STOP statement.

To make a working copy of Unloader, load it into your TS2068 from 'Side B' of
the tape you received, insert a blank tape, and type: RUN 9000.

RELOADER

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by
Kurt A. Casby

Reloader is an auxiliary program for Loader V. Because it relies on the machine code from Loader V, this code must be in your computer when you use Reloader. Reloader's purpose is to allow you to load Mterm's buffer while you are on line.

If you have a number of files you wish to upload to some system, for example, several letters to send via easy-plex on Compuserve, Reloader allows you to do so in one session! You would first use Loader V to load the buffer with your first letter, get on line and send the letter.

When you are finished sending your first letter, exit to BASIC from Mterm, LOAD "Reloader", then load your next letter into the buffer! If the file loaded properly, you will see the message 'LOAD complete, press any key' flashing near the bottom of the screen. Press a key, and Reloader will RUN Mterm, so you may send the second letter! You may continue in this manner for as many files as you wish to send! (If you do not see the message, and find yourself back at Reloader's menu, there was a loading error, or you pressed 'BREAK'! Try again!)

Reloader is most useful with a fast mass storage device (disk, microdrive, etc.) due to the loading times, but it will work fine with tape also!

To make a working copy of Reloader, load it in from 'Side B' of the tape you received, insert a blank tape, then type: RUN 9000.

Please also remember that all the machine code below 26710 (The start of BASIC) will be erased if you type: NEW.

CIS-UP

Donated to the public domain!
by
Kurt A. Casby

CIS-UP is an auxiliary uploading routine for the TS2068 computer, TS2050
modem, and Mterm (Smart Term II). It allows HEX uploading to systems that
have a fixed line length (like Compuserve). Mterm's HEX uploading routine
does not respect any fixed line length, thus the need for this routine.

To use the routine it must be loaded into memory (LOAD "CIS-UP" CODE). You
then use Loader V and Mterm to go on line as usual. When the computer you are
sending to is ready to receive the file, you exit to BASIC, and type: PRINT
USR 24024 then press ENTER. The routine will send what ever file you have in
the buffer exactly like the 'HEX' mode in Mterm, except it will add a carriage
return after each 62 characters! When the routine has finished its task, it
will return to Mterm.

If you wish to set the line length (number of characters before a carriage
return) to something other than 62, then POKE 24035 with a number 1/2 the
length of the desired line! (If you PRINT PEEK 24035 now you will see a 31,
this is 1/2 of the line length of 62!)

The routine is set up for 7 bits word length, Even parity, and 1 stop bit. If
you want to use 8 bits word length, No parity, and 1 stop bit, then POKE from
24094 to 24100 with 0s. Please note that the parity used by this routine MUST
agree with the parity you are already using for the call! 330, 127, 234, 37, 94, 246, 1

I have installed a throttle in the routine so you may slow down the
transmission if the computer you are sending to cannot keep up with the full
speed. (Many BBS programs cannot handle full speed for more than 100 or so
characters. After that, they lose some of the characters you send!). If you
need to slow it down, POKE 24105 with a number between 1 and 255. (Most BBS
programs around here seem to need between 12 and 20!)

To make a working copy of CIS-UP, load it into your TS2068 from the side of
the tape marked 'Loader V', insert a blank tape, and type: SAVE "CIS-UP" CODE
24024,149

If you will be using this routine often, you can install it as a part of
Loader V. Just load it in when you make a working copy of Loader V, and edit
line 9000, changing the length of the code part of Loader V from VAL "244" to
VAL "393".

Please also remember that all the machine code below 26710 (The start of
BASIC) will be erased if you type: NEW.